

REMARKS/ARGUMENTS

Independent claim 1 has been amended to recite that the fibers are laid in a preferred direction perpendicular to the Z-direction and in the machine direction and/or transverse to the machine direction section such that the overlap of the cross sections of the fibers is greater than fleeces with fibers of circular cross sections at the same titer. Independent claim 1 has also been amended to recite that the spunbond fleece exhibits a greater reduction of light permeability than a fleece having the same weight per area and circular cross section fibers having the same titer. Support for these claim amendments can be found throughout the present specification including paragraphs [0013], [0019], [0037], and [0055] of the published application (i.e., U.S. Publication No. 2008/0032579).

New dependent claim 19 has been added. Claim 19 is dependent on independent claim 1 and recites properties of the fleece that were previously recited in independent claim 1. New dependent claim 20 has been added. Claim 20 is dependent on independent claim 1 and recites that the polymer fibers have a non-circular cross section with a trilobal or flat form fiber cross section and the cross sections of the fibers overlap from 25% to 53% greater than fleeces with fibers of circular cross sections at the same titer. Support for these claim amendments can be found throughout the present specification including paragraphs [0013], [0019], [0037], and [0055] of the published application (i.e., U.S. Publication No. 2008/0032579).

New dependent claim 21 has been added. Claim 21 is dependent on independent claim 1 and recites that the spunbond fleece consists of the polymer fibers and one or more inorganic salts. New claim 22 (dependent upon claim 21) has also been added and recites that the inorganic salts include titanium oxides. Support for claims 21 and 22 can be found at least in Examples 1 and 2.

No new matter has been entered.

I. Prior Art Rejections

To establish a *prima facie* case of obviousness, according to a test predominately used by the courts, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary

skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim elements. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

With regard to the Supreme Court's decision in *KSR Int'l. Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007), it is noted that the Court did not dismiss the usefulness the well-established "teaching, suggestion, or motivation" test set forth above, but merely cautioned against its rigid application. The Supreme Court in *KSR* commented that the Federal Circuit "no doubt has applied the test in accord with these principles [set forth in *KSR*] in many cases." *Id.* 82 USPQ2d at 1396. However, the Supreme Court also opined that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. . ." *Id.* 82 USPQ2d at 1395-96. Regardless of the precise test used, the Court, quoting *In re Kahn*, cautioned that " '[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.'" *Id.* 82 USPQ2d at 1396.

Claims 1, 3, 5-13, and 16-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,560,974 to Langley ("Langley") in view of U.S. Patent No. 6,448,462 to Groitzsch et al. ("Groitzsch") and U.S. Patent no. 5,597,645 to Pike et al. ("Pike"). Claims 11-13 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Langley, Groitzsch, Pike, and in further view of U.S. Patent No. 6,063,981 to Wehner et al. ("Wehner"). Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Langley, Groitzsch, Pike, Wehner, and in further view of U.S. Patent No. 6,797,377 to Delucia et al. ("Delucia"). Applicants traverse each obviousness rejection.

Applicants note that the cited art, alone or in any combination, simply fail to recognize that an increased reduction in light permeability can be realized by utilizing fibers having non-circular cross sections laid in a manner such that the overlap of the cross sections of the non-circular fibers is greater than fibers of the same titer having circular cross sections without

increasing the weight per unit area of the fleece or by addition of additional materials. As such, the cited art, alone or in any combination, does not teach, suggest, or otherwise render predictable any of the following aspects of the currently pending application: (1) polymer fibers laid in a preferred direction perpendicular to the Z-direction and in the machine direction and/or transverse to the machine direction section such that the overlap of the cross sections of the fibers is greater than fleeces with fibers of circular cross sections at the same titer as recited in independent claim 1; (2) a spunbond fleece having non-circular cross section fibers in which the fleece exhibits a greater reduction of light permeability than a fleece having the same weight per area and circular cross section fibers having the same titer as recited in independent claim 1; (3) a fleece in which the polymer fibers have a non-circular cross section with a trilobal or flat form fiber cross section and the cross sections of the fibers overlap from 25% to 53% greater than fleeces with fibers of circular cross sections at the same titer as recited in claim 20; and (4) a spunbond fleece consisting of the polymer fibers and one or more inorganic salts.

Langley is directed to non-woven composite fabrics that provide a barrier to the passage of biological liquids, while maintaining a particular vapor transmission rate. Langley teaches that the composite fabrics are constructed of a microporous thermoplastic film having at least one surface thermally bonded to a non-woven layer. As such, the composite fabric of Langley requires (1) a microporous thermoplastic film and a non-woven layer. The Office acknowledges that Langley is silent regarding the claimed fiber titer and fibers of non-circular cross section. The Office argues that Groitzsch and Pike cure each of these acknowledged deficiencies of Langley, respectively.

Groitzsch is directed to a medical bandage made of microfilament non-woven fabric having a titer of 1.5 to 5dtex. The bandage of Groitzsch exhibits a high resistance to abrasion as well as high gas and water vapor permeability.

Pike is directed to an electretized non-woven filter media for gaseous fluids. Pike teaches that the filter media provides low pressure drop, high throughput, and self-supporting strength. The filter media of Pike has a Frazier permeability is equal to or greater than $100\text{ft}^3/\text{min}/\text{ft}^2$. As such, Pike's teachings are directed to air/gas filters in which they can increase the throughput of the air/gases. Pike's teaching, therefore, that the properties of the

air/gas filter can be improved by using fibers having cross-section different than round fibers are with respect only to filtration of air/gases. That is, the improved properties by the use of non-circular cross-section fibers in an air/gas filter are not necessarily translatable to composite fabrics intended to block liquids.

Applicants note, however, the Groitzsch and Pike fail to cure the noted deficiencies of Langley. That is, any combination of Langley, Groitzsch, and Pike does not teach, suggest, or otherwise render predictable any of the following aspects of the currently pending application: (1) polymer fibers laid in a preferred direction perpendicular to the Z-direction and in the machine direction and/or transverse to the machine direction section such that the overlap of the cross sections of the fibers is greater than fleeces with fibers of circular cross sections at the same titer as recited in independent claim 1; (2) a spunbond fleece having non-circular cross section fibers in which the fleece exhibits a greater reduction of light permeability than a fleece having the same weight per area and circular cross section fibers having the same titer as recited in independent claim 1; (3) a fleece in which the polymer fibers have a non-circular cross section with a trilobal or flat form fiber cross section and the cross sections of the fibers overlap from 25% to 53% greater than fleeces with fibers of circular cross sections at the same titer as recited in claim 20; and (4) a spunbond fleece consisting of the polymer fibers and one or more inorganic salts.

The Office cites Wehner for teaching a low penetration of adhesive for the Langley-modified fabric. The Office cites Delucia for teaching particular additives. Applicant note, however, that Wehner and Delucia also fail to cure the noted deficiencies of Langley. That is, any combination of Langley, Groitzsch, Pike, Wehner, and Delucia does not teach, suggest, or otherwise render predictable any of the following aspects of the currently pending application: (1) polymer fibers laid in a preferred direction perpendicular to the Z-direction and in the machine direction and/or transverse to the machine direction section such that the overlap of the cross sections of the fibers is greater than fleeces with fibers of circular cross sections at the same titer as recited in independent claim 1; (2) a spunbond fleece having non-circular cross section fibers in which the fleece exhibits a greater reduction of light permeability than a fleece having the same weight per area and circular cross section fibers having the same titer as recited

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in independent claim 1; (3) a fleece in which the polymer fibers have a non-circular cross section with a trilobal or flat form fiber cross section and the cross sections of the fibers overlap from 25% to 53% greater than fleeces with fibers of circular cross sections at the same titer as recited in claim 20; and (4) a spunbond fleece consisting of the polymer fibers and one or more inorganic salts.


For at least these reasons, Applicants submit that all obviousness rejections have been overcome and request the withdrawal of all obviousness rejections.

II. Conclusion

In view of at least the claim amendments and remarks made above, Applicant submits that the pending claims are now in condition for allowance. Applicant respectfully requests that the claims be allowed to issue. If the Examiner wishes to discuss the application or the comments herein, the Examiner is urged to contact the undersigned by telephone.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefor (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,


John E. Johnson III
Registration No. 58,367

Customer No. 00826
ALSTON & BIRD LLP
Bank of America Plaza
101 South Tryon Street, Suite 4000
Charlotte, NC 28280-4000
Tel Charlotte Office (704) 444-1000
Fax Charlotte Office (704) 444-1111

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